REMARKS

This Preliminary Amendment is submitted in association with the Request For Continued Examination attached herewith. Claims 1-24 are currently pending. Claims 1, 2, 9, 10, 17 and 18 are currently amended.

I. Telephone Interview on Friday, February 4, 2005

Applicant appreciates the courtesies extended by the Examiner in the telephone interview of February 4, 2005. In particular, Applicant appreciates the Examiner's willingness to allow amendment of the claims to correct the deficiency related to the construction of the 'or' structure in Claims 1, 2, 9, 10, 17 and 18, which are currently amended in a manner consistent with the Examiner's instructions in that telephone interview. The present amendment is submitted with a request for continued examination to facilitate further examination of the claims.

II. Introduction to Rejections under 35 U.S.C. § 103

In the present Office Action, Claims 1-3, 7-11, 15-19, and 23-24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,999,971 to Buckland (*Buckland*) in view of U.S. Patent No. 5,774,660 to Brendel *et al.* (*Brendel*). Claims 10-11, 15-16, 18-19 and 23-24 have similar limitations as Claims 2-3 and 7-8; therefore, they are rejected under the same rationale. Claims 4-6, 12-14, and 20-22 are rejected under 35 U.S.C. § 103(a) as unpatentable over *Buckland* and *Brendel* and in view of U.S. Patent No. 6,640,302 to Subramaniam *et al.* (*Subramaniam*). Those rejections are respectfully traversed in view of the discussion made herein, and favorable reconsideration of the claims is requested.

III. The 'determining' step of exemplary Claim 1 is not taught or suggested

First, with respect to exemplary Claim 1, Applicant respectfully submits that the cited combination of references does not teach or suggest Applicant's claimed feature of "determining whether a client's request to receive a file from one of the set consisting of the load distribution

server and the content server". The Examiner asserts at paragraph nine that **Buckland** "teaches ... determining whether the client's request to receive a file from the content server originated as a reference from the load distribution server or as a reference from the content server itself". The Examiner cites the abstract of *Buckland*, as well as Column 2, lines 15-32, and Column 6, lines 1-24 as teaching this functionality. The abstract of *Buckland* discloses:

> An apparatus for identifying a client accessing a first network site utilizes a control site to maintain information relating to the client. To that end, in response to receipt of a request from the client to access the first network site, it is determined if the client includes a first site data block. If it is determined that the client does not include the first site data block, then the control site is controlled to produce a control site data block having both control site identification data and a client identifier. The control site data block then is transmitted from the control site to the client In a similar manner, the client identifier is transmitted from the control site to the first network site. Upon receipt of the client identifier by the first network site, the first network site is controlled to transmit the first site data block to the client. The first site data block may have both the client identifier and first site identification data.

Similarly, the text of Column 2, lines 15-32 of *Buckland* discloses:

> In accordance with one aspect of the invention, an apparatus for identifying a client accessing a first network site utilizes a control site to maintain information relating to the client. To that end, in response to receipt of a request from the client to access the first network site, it is determined if the client includes a first site data block. If it is determined that the client does not include the first site data block, then the control site is controlled to produce a control site data block having both control site identification data and a client identifier. The control site data block then is transmitted from the control site to the client. In a similar manner, the client identifier is transmitted from the control site to the first network site. Upon receipt of the client identifier by the first network site, the first network site is controlled to transmit the first site data block to the client. In preferred embodiments, the first site data block has both the client identifier and first site identification data.

Finally, the text of Column 6, lines 1-24 of *Buckland* discloses:

> The process begins at step **300** in which the client **206** requests access to the first network site **200**. Although the first network site **200** is discussed, the principles relating to this process can be applied to such a request received by any of the other network sites. Once the request is

received by the first network site **200**, then the process continues to step **302** in which the first network site **200** interacts with the client **206**, in a conventional manner, to determine if the browser **210** includes a first site cookie (i.e., first network site data block) from the first network site **200**. As is known in the art, the browser **210** may include a first site cookie if that browser **210** had accessed the first site at some earlier time and the first site transmitted (a/k/a "dropped") a cookie to the browser **210** for subsequent retrieval by the first network site **200**.

Having reviewed the cited references and amended exemplary Claim 1, Applicant respectfully submits that the cited texts do not teach or suggest "determining whether a client's request to receive a file from a content server originated as a reference from one of the set consisting of the load distribution server and the content server", as is recited in amended exemplary Claim 1. More specifically, both the first and second passage from *Buckland* teach that "it is determined if the client includes a first site data block", while the third passage teaches "determin[ing] if the browser **210** includes a first site cookie (i.e., first network site data block) from the first network site **200** ... if that browser **210** had accessed the first site at some earlier time".

Applicant respectfully submits that neither of the methods disclosed in these passages teaches or suggests Applicant's claimed feature of "determining whether a client's request to receive a file from a content server originated as a reference from one of the set consisting of the load distribution server and the content server". Applicant respectfully submits that the feature recited in the cited art, of seeking a cookie from a client under the teaching of *Buckland* does not teach or suggest "determining whether a client's request to receive a file from a content server originated as a reference from one of the set consisting of the load distribution server and the content server". Applicant respectfully observes that, in cases where a client has contacted a server in the past and received a cookie, and then the client has bookmarked the server, the cookie described in the cited reference will be present without regard to whether the "client's request to receive a file from a content server originated as a reference from one of the set consisting of the load distribution server and the content server". Applicant most respectfully asserts that ascertaining the presence or absence of the cookie in *Buckland* is inadequate to determine, and does not suggest determining, the referring source of the request.

Applicant respectfully notes that, while the cookie of *Buckland* allows a server to know if it has contacted a client before, the cited references neither teach nor suggest Applicant's claimed feature of "determining whether a client's request to receive a file from a content server originated as a reference from one of the set consisting of the load distribution server and the content server," as is recited in exemplary Claim 1. In view of the absence, when considering all of the cited references, of the recited functionality, Applicant respectfully submits that the rejection under 35 U.S.C. § 103 is overcome.

IV. The 'sending' step of exemplary Claim 1 is not taught or suggested

Still with respect to Claim 1, Applicant most respectfully submits that the cited combination of references does not teach or suggest Applicant's claimed feature of "responsive to determining that the client's request to receive the file from the content server did not originate as the reference from one of the set consisting of the load distribution server and the content server, sending to the client a file requesting that the client contact the load distribution server", as recited in Applicant's exemplary Claim 1. The Examiner cites the abstract of *Buckland*, as well Column 2, lines 15-32, and Column 6, lines 1-24 as teaching this functionality. The Examiner also cites *Bremel* as teaching this functionality, as is discussed below. The abstract of *Buckland* is quoted above in its entirety, but a relevant portion recites that:

> If it is determined that the client does not include the first site data block, then the control site is controlled to produce a control site data block having both control site identification data and a client identifier. The control site data block then is transmitted from the control site to the client.

Similarly, the text of Column 2, lines 25-37 of *Buckland* discloses:

> The control site data block then is transmitted from the control site to the client. In a similar manner, the client identifier is transmitted from the control site to the first network site. Upon receipt of the client identifier by the first network site, the first network site is controlled to transmit the first site data block to the client. In preferred embodiments, the first site data block has both the client identifier and first site identification data.
>
> In some embodiments, the first network site is a World Wide Web site in a first network site domain, the client includes a browser, and the

first site data block is a cookie. The client thus may be directed to the first network site domain to receive the cookie from the first network site.

The Examiner then asserts that "**Buckland** implicitly teaches a network site (200, 202, 204) redirects command (read as file requesting) to client to redirect and contact control network site (207). The control network site implicitly read as load distribution server because it works the same function as receiving the redirected message from content server..." Having reviewed the cited references and the reasoning of the Examiner, Applicant respectfully submits that the cited texts do not disclose "sending to the client a file requesting that the client contact the load distribution server" because identification of a client and contact with a particular domain, as taught in the cited passages does not teach or suggest the concept of redirection to a load distribution server.

More specifically, Applicant respectfully observes that both the first and second passages direct the control server to plant a cookie in the form of "a control site data block having both control site identification data and a client identifier". Applicant respectfully submits that the control site data block of *Buckland* is an identification message, not a redirect message, and that the true nature of the control site data block as identification is made explicit when the cited reference states "In a similar manner, the client identifier is transmitted from the control site to the first network site" (abstract, line 10). Applicant respectfully traverses the Examiner's assertion that the control site block serves as a redirect message because the cited texts clearly label the control site block as an identification message, rather than a redirect message. Applicant respectfully submits that the sending of an identification message, as taught in *Buckland*, does not teach or suggest Applicant's claimed feature of "sending to the client a file requesting that the client contact the load distribution server".

Similarly, the Examiner has also cited *Brendel* as teaching Applicant's claimed feature of "responsive to determining that the client's request to receive the file from the content server did not originate as the reference from one of the set consisting of the load distribution server and the content server, sending to the client a file requesting that the client contact the load distribution server". The cited text of *Brendel* discloses:

FIG. 8 is a diagram illustrating TCP state migration of a connection from the load balancer to a server node. Browser **10** connects through Internet **66** to load balancer **70** and sends a URL request **102** once the connection **100** is made. Load balancer **70** does not have to be a separate, dedicated router or PC, and is shown as a software application running on server **56**. Load balancer **70** can use many variations of balancing algorithms to determine which server **56, 51, 52** should service the new URL request **102**. Load balancer **70** determines that the request should be assigned to server **52**. The connection and URL request are migrated from load balancer **70** to server **52** using TCP state migration **120**. Server **52** accesses disk **62** to read requested file **26** and sends a copy of requested file **26** to browser **10** through Internet **66** as data transfer **104**.

The Examiner asserts that "Brendel, in the same field of endeavor, teaches the load balancer (70) does the same function as load distribution server." Upon review of the cited text of *Brendel* and the reasoning of the Examiner, and upon amendment of the relevant claim, Applicant respectfully submits that the reference does not disclose "responsive to determining that the client's request to receive the file from the content server did not originate as the reference from one of the set consisting of the load distribution server and the content server, sending to the client a file requesting that the client contact the load distribution server." First, the cited text does not disclose "sending to the client a file requesting that the client contact the load distribution server", because the cited text of *Brendel* discloses a client initially and directly contacting a load balancer. Similarly, and also for the same reason, Applicant respectfully submits that the cited text does not teach or disclose performing the sending step "responsive to determining that the client's request to receive the file from the content server did not originate as the reference from one of the set consisting of the load distribution server and the content server". In each case, Applicant respectfully submits that the cited text, which discusses a client directly (and without prompting) contacting a load balancer, never suggests instructing a client to contact a load balancer.

Applicant respectfully observes that neither of *Brendel* and *Buckland*, nor the combination of *Brendel* and *Buckland* teaches or suggests Applicant's recited feature of "responsive to determining that the client's request to receive the file from the content server did not originate as the reference from one of the set consisting of the load distribution server and the content server, sending to the client a file requesting that the client contact the load distribution server."

Further, Applicant respectfully submits that the combination of the references does not suggest to one skilled in the art to modify the teachings of the references to obtain Applicant's claimed invention. Even if the references could be combined, as is suggested by the Examiner, Applicant respectfully submits that the combination of the cited texts merely discloses planting and seeking a cookie when a client contacts a server or a load balancer, which does not suggest "responsive to determining that the client's request to receive the file from the content server did not originate as the reference from one of the set consisting of the load distribution server and the content server, sending to the client a file requesting that the client contact the load distribution server." In view of the absence, when considering a possible combination of all of the cited references, of the recited functionality, Applicant respectfully submits that the rejection under 35 U.S.C. § 103 is overcome.

V. Arguments with respect to Claim 1 apply broadly

Applicant respectfully submits that the rejection of exemplary Claim 1 under 35 U.S.C. § 103 is overcome. The foregoing arguments made with respect to Claim 1 are also made with respect to Claims 2-8, which further limit and patentably distinguish Claim 1. The forgoing arguments are also made with respect to Claims 9 and 17, which claim a computer program product and a system for performing Applicant's invention, respectively. The foregoing arguments are similarly made with respect to Claims 10-16, which further limit and patentably distinguish Claim 9 and with respect to Claims 18-24, which further limit and patentably distinguish Claim 17.

VI. The "updating" step of Applicant's Claim 4 is not taught or suggested

With respect to exemplary Claim 4, Applicant respectfully submits that the cited combination of references does not teach or suggest Applicant's claimed feature of "offering in the file requesting that the client contact the load distribution server a means to update a bookmark file to include the load distribution server", as recited in Applicant's exemplary Claim 4. The Examiner correctly notes that "**Buckland** and **Brendel** does not explicitly teach a means to update a bookmark file to include the load distribution server", and then cites *Subramaniam*, at Column 6, line 46- Column 8, line 28, as teaching the recited functionality. The cited text of *Subramaniam* discloses:

With continued reference to **FIG. 1** and with reference to **FIG. 2** as well, the invention operates generally in the following manner. During a requesting step **120**, the external client **112** requests access to data which is stored on the target server **104**. From the perspective of the target server **104**, this involves receiving a request during a step **200**.

By checking the IP address from which the request was made, communicating with the firewall software, or other familiar means, the target server **104** determines that the request came from outside the security parameter **102**. Accordingly, the target server **104** does not simply provide the requested data. Of course, even if the request came from inside the security parameter **102**, the target server would generally check user permissions against access control lists associated with the data, or take other steps to make sure the requesting user is entitled to access the requested data before providing that data. User permissions, access control lists, labels, and similar security controls which have a granularity smaller than the security perimeter **102** may continue to be used in combination with the security constraints described herein.

In one embodiment, a redirector on the border server **106** redirects the request from the client **112** to the border server **106** during a step **122**. The border server **106** is advertised as the target server **104**. In practice, the border server **106** will often be on a separate machine than the target server **104**, but those of skill in the art will appreciate that the target server **104** and the border server **106** may also run on the same machine. The redirection may be accomplished using redirection capabilities which are part of the HTTP protocol. These redirection capabilities are conventionally used to automatically redirect Web browsers when a Web site has moved, that is, when the URL for the Web site has changed. In the context of the present convention, the Web site for which access is sought has not moved, in that the desired data still resides on the target server **104**. Instead, HTTP redirection provides a convenient and efficient tool for sending requests from external clients to the border server **106** to maintain security as described herein.

For example, assume that the target server **104** is identified by the URL "http://www.Novell.com". The redirection step **122** might return the following URL to the external client **112**:

> https://BorderManager:443?"http://www.Novell.com" (for authentication), or it might return the URL:

> https://BorderManager:443?"https://www.Novell.com:443" (authentication and force through the SSL-izer). Several things are worth noting in such a redirection URL signal.

First, the redirection signal seeks to change the protocol from HTTP to HTTPS. As those of skill in the art will recognize, the HTTPS protocol uses secure sockets layer communication. A familiar embodiment of secure sockets layer communication is provided by SSL software operating according to U.S. Pat. No. 5,825,890 assigned to Netscape Communications Corporation. However, as used herein the term "secure sockets layer communication" is not limited to SSL connections but instead includes any form of network communication which utilizes encryption in TCP/IP sockets and which is widely available in Web browsers and the servers with which those browsers communicate.

Second, the redirection signal refers to the border server **106** as "BorderManager" in deference to the BorderManager product line from Novell, Inc. (BorderManager is a mark of Novell, Inc.). Those of skill in the art will understand that the border server 106 need not be a Novell BorderManager server, but need merely operate as claimed herein.

Third, the redirection signal refers to port **443** of the border server **106**. Those of skill in the art will appreciate that other ports may also be used, through a port override, for instance. Moreover, redirection need not utilize a dedicated port; it is simply convenient in many cases to do so.

Fourth, in its most general form, the redirection signal simply includes a delimited non-secure URL adjoined to a secure URL. The non-secure URL http://www.Novell.com identifies the target server **104**, while the secure URL https://BorderManager identifies the border server **106**. To conform with HTTP syntax, the non-secure UPL is delimited in the example redirection signal by double quotes; other delimiters may be used with other protocols. The non-secure URL is non-secure because it does not require use of a secure connection such as a secure sockets layer or SSL link; the secure URL is secure because it does require such a secure connection.

Fifth, those of skill in the art will appreciate that directory path names and filenames may be appended to these examples to identify specific Web pages or other protected resources. For instance, the original request may have been for the web page which is located at "http://www.Novell.com/.about.hashem/foo_desion.htm".

Sixth, those of skill in the art will also appreciate that FTP files, gopher resources, and other data on the target server **104** may be handled in a similar manner.

Finally, those of skill in the art will appreciate that a wide variety of signal field orderings, data sizes, and data encodings, and other variations are possible. The inventive signals may also be embodied in a

system in various media. For instance, they may take the form of data stored on a disk or in RAN memory, or the form of signals on network communication lines. Some embodiments will include all signal elements discussed above, while others omit and/or supplement those elements. However, the distinctive features of the invention, as set forth in the appended claims, will be apparent in each embodiment to those of skill in the art.

During a step **124**, a secure connection is formed between the border server **106** and the external client **112**. This connection may be, for instance, an SSL connection formed in response to use of "https" as a protocol indicator in a request from the client **112** to the border server **106**. For convenience, reference is made primarily to connections with a user of the external client **112**. However, as noted earlier the client **112** may itself be a server or another node in a communications path between a user who is located at another machine **114** and who is seeking access to target server **104** data.

Having examined the cited text, Applicant respectfully submits the words "offer", "update" and "bookmark" do not appear in the cited text of *Subramaniam*, or anywhere else within the reference. Similarly, the words "offer", "update" and "bookmark" do not appear within *Buckland*, and *Brendel* does not contain the words "offer" and "bookmark". Applicant has likewise been unable to identify analogous concepts in the cited texts. The Examiner alleges:

> "**Subramaniam** teaches a redirect request sends from target server 103 through external client 112 to border server 106 and has conventional capabilities to automatically redirect client when a web site has moved, that is, the URL for the web site has changed... It would have been obvious to one of ordinary skill in the art that the conventional redirect request/URL is when a user experiences a redirect from one page to another by asking the user to click on a link, update bookmark or by means of automatic redirection to a page that has change/moved (i.e. load distribution server. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of **Buckland, Brendel and Subramaniam** to include a means to update bookmark to include the load distributon server."

Applicant respectfully submits that the Examiner has not shown any reference that teaches or suggests the existence of a bookmark or "a means to update a bookmark file to include the load distribution server". Applicant respectfully traverses the Examiner's assertion that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of **Buckland, Brendel** and **Subramaniam** to include" a means to update bookmarks. Bookmarks are mentioned in none of the cited references. Applicant respectfully
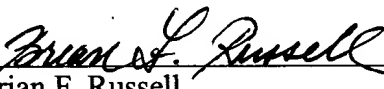
submits that the combination of references does not teach or suggest functionality addressed or suggested by none of them individually. Applicant respectfully submits that the rejection of Claims 4-6, 12-14, and 20-22 under 35 U.S.C. § 103 is overcome.

VII. Conclusion

It is respectfully submitted that the claims are in condition for allowance and favorable action is requested. A one month extension of time is believed to be required, and a check for the required fee is enclosed herewith. However, in the event that a further extension of time is required, please charge that extension fee and any other required fees to **IBM Corporation's Deposit Account Number 09-0447.**

Applicant respectfully requests the Examiner contact the undersigned attorney of record at (512) 542-3678 if such would further or expedite the prosecution of the present Application.

Respectfully submitted,

Brian F. Russell
Reg. No. 40,796
DILLON & YUDELL, LLP
8911 N. Capital of Texas Highway
Suite 2110
Austin, Texas 78759
(512) 343-6116

ATTORNEY FOR APPELLANT